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Vacuum Einstein spaces with axial symmetry

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Abstract

Four classes of solutions are found to the equations Rαβ=-2σ;α σ;β and gαβ σ;αβ=0 in three-dimensional space with metric gαβdxαdxβ and signature (+ --), equivalent to the Einstein equations Rij=0 in a vacuum for the metric {Mathematical expression}. The metric ds2 assumes axial symmetry and symmetry with respect to the reflection {Mathematical expression}. © 1977 Plenum Publishing Corporation.

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